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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,137	12/27/2001	Hiromoto Ohno	Q60713	9822
7590	11/18/2004			
Sughrue Mion 2100 Pennsylvania Avenue NW Washington, DC 20037-3213				
EXAMINER				
PRICE, ELVIS O				
ART UNIT		PAPER NUMBER		
1621				

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,137

Applicant(s)

OHNO ET AL.

Examiner

Elvis O. Price

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/26/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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DETAILED ACTION

Claims 1-14 are pending in the application.

Information Disclosure Statement

The information disclosure statement complies with the provisions of 37 CFR 1.97, 1.98 and MPEP02 § 609. It has been placed in the application file, and the information referred to therein has been considered as to the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ono et al. {JP 08 081399; see English Translation}, in view of applicants own admission (page 5 of the present specification).

Applicants claim, in brief, a method for the purification of tetrafluoromethane: comprising contacting tetrafluoromethane containing one or more ethylene compounds, one or more hydrocarbon compounds, carbon monoxide and/or carbon dioxide as impurities with zeolite having an average pore size of 3.4 to 11 angstroms and an Si/Al ratio of 1.5 or less and/or a carbonaceous adsorbent having an average pore size of 3.4 to 11 angstroms to reduce the amount of said impurities.

Ono et al. teach a method for the purification of tetrafluoromethane, comprising contacting crude tetrafluoromethane with zeolite (e.g., MS-4A, MS-5A, MS-13X, etc.) or

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carbonaceous adsorbent (e.g., Molecular Sieving 4A and 5A) having an average pore having an average pore size of 3.4 to 11 angstroms to reduce the amount of impurities (see abstract and Examples). The difference between the presently claimed invention and what is taught by the Ono et al. reference is that the Ono et al. reference is silent with regard to the tetrafluoro-methane containing one or more ethylene compounds, one or more hydrocarbon compounds, carbon monoxide and/or carbon dioxide as impurities. However, applicants admit (page 5 of the present specification) that is known in the art that impurities such as one or more ethylene compounds, one or more hydrocarbon compounds, carbon monoxide and/or carbon dioxide are contained in crude tetrafluoromethane when the said tetrafluoromethane is manufactured, inter-alia, by reacting trifluoromethane with fluorine gas or thermally decomposing (pyrolyzing) tetrafluoroethylene. Ono et al. teach that tetrafluoromethane can be manufactured, inter-alia, by reacting trifluoromethane with fluorine gas or pyrolyzing tetrafluoroethylene.

Therefore, it would have been prima facie obvious to one having ordinary skill in the art to purify tetrafluoromethane as presently claimed because Ono et al. teach the purification of crude tetrafluoromethane, manufactured by, inter-alia, reacting trifluoromethane with fluorine gas or pyrolyzing tetrafluoroethylene, comprising contacting the crude tetrafluoromethane with zeolite (e.g., MS-4A, MS-5A, MS-13X, etc.) or carbonaceous adsorbent (e.g., Molecular Sieving 4A and 5A) having an average pore having an average pore size of 3.4 to 11 angstroms to reduce the amount of impurities and applicants admit that impurities such as one or more ethylene

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compounds, one or more hydrocarbon compounds, carbon monoxide and/or carbon dioxide are contained in crude tetrafluoromethane which is manufactured by, inter-alia, reacting trifluoromethane with fluorine gas or thermally decomposing (pyrolyzing) tetrafluoroethylene.

The presently claimed invention would have therefore been realized when carrying out the Ono et al. method for purifying crude tetrafluoromethane, which is manufactured by reacting trifluoromethane with fluorine gas or pyrolyzing tetrafluoroethylene. A tetrafluoromethane product, etching gas and cleaning gas would have also been inherently generated or have been obvious variants considering that Ono et al. are carrying out the same material process of purifying tetrafluoromethane as that that is presently claimed (i.e., same zeolite or carbonaceous adsorbents having the same pore size).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elvis O. Price whose telephone number is 571 272-0644. The examiner can normally be reached on 8:30 am to 5:00 pm; Mon-Fri.

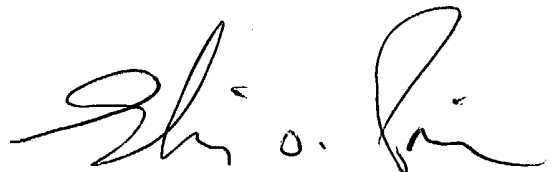
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann R. Richter can be reached on 571 272-0646. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-1235.

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Elvis O. Price

November 15, 2004